(TG2) Turbulence Topical Group Report

Feb. 3, 2022 (T. Tsujimura)

Date: Feb. 2, 2022
Time: 11:05 – 12:34
Shot #: 177921 – 177951 (31 shots)

Prior wall conditioning: No
Divertor pump: No
Gas puff: H_2
Pellet: C

NBI #(1, 2, 3, 4, 5) = gas(H, H, H, H, H) = P(4.8, 2.0, 4.2, 3.7, 4.1) MW

ECH (77 GHz) = ant(5.5-Uout (or 1.5U), 2-OUR) = P(703, 792) kW
ECH (154 GHz) = ant(2-OLL, 2-OUL , 2-OLR) = P(723, 799, 825) kW
ECH (56 GHz) = ant(1.5U) = P(-) kW
ICH (3.5U, 3.5L, 4.5U, 4.5L) = P(-, -, -, -) MW
Neutron yield integrated over the experiment = 3.5×10^{11}

Topics:

1. Effect of IPD on high T_i plasmas (H. Takahashi and S. Masuzaki)

Effect of IPD on high T_i plasmas (H. Takahashi and S. Masuzaki)

Experimental conditions: (R_{ax}, B_t) = (3.55 m, 2.789 , CCT), γ = 1.2538, and B_q = 100 %, #177921-951

Motivation and objective: Increase of T_e and/or T_i have been observed due to the IPD injection. The objective is whether the same effect can be observed in improved confinement plasmas.

Results:

- We could successfully operate the IPD for high Ti plasmas with a C pellet.
- The Ti0 was ~2.5 keV in the case without IPD.
- In the case with IPD, the Ti0 gradually increased after the tangential NB injection and the value reached 4.5 keV after the C pellet injection.
- We will check the PCI signal, boron profile, Zeff and the other relating parameters.